THE EFFECT OF AIRCRAFT MOVEMENT OPERATIONS ON OPTIMIZING THE USE OF *PARKING STANDS* 1 AND 2 AT RADIN INTEN II LAMPUNG INTERNATIONAL AIRPORTS

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ABSTRACT
Radin Inten II Lampung International Airport is an airport located in South Lampung, Lampung. This airport is experiencing rapid traffic growth after the Covid-19 pandemic, the increase in the number of aircraft movements must be supported by optimal operational services, one of which is by meeting ground time standards in order to achieve optimal use of parking stands. Ground time is the time of the aircraft while on the apron from block on to block off where during the aircraft on the apron there are ramp service operational activities. The research methodology used in this study is a quantitative descriptive method with data obtained from the linearity test, simple linear regression test, determination coefficient test, and t-test (partial) as well as analysis of observation and documentation results. Data processing was carried out on ground time data to determine the influence of ground time on the use of parking stands in order to achieve optimization of the use of parking stands 1 and 2. The results of the research that have been conducted by the researcher prove that there is an influence of aircraft movement operational activities, namely ground time, on the optimization of the use of parking stands 1 and 2 at Radin Inten II Lampung International Airport. The results of the linearity test show that there is a linear relationship so that it is eligible for a simple linear regression test. From the results of a simple linear regression analysis, it was found that if the ground time variable (X) has a value of zero or fixed, it will increase the utilization rate of parking stands 1 and 2 by 20.619%, if the variable increases by 1 unit, it will decrease the utilization rate of parking stands 1 and 2 by 27.1%. The results of the determination coefficient show that ground time has an effect of 53.9%, while 46.1% cannot be explained by the independent variable in this study. So it can be concluded that H_1 is accepted and H_0 is rejected. Factors that affect ground time include the unloading and loading process, ramp maintenance, weather, ground handling, apron collapse and FOD, as well as the de-boarding and boarding process.

Keywords: Effect, optimization, ground time, block on, block off, operational

1. INTRODUCTION

In this modern era, modes of transportation have become very important for people's needs, especially in this country which is an archipelagic country. Air transportation is a mode of transportation that is widely used by people in Indonesia because it does not require a long travel time to move from one place to another. Therefore, air transportation is often the choice of the wider community, because basically this mode of transportation is efficient. With the construction of airports throughout Indonesia, it is hoped that this effective and efficient air transportation system can be achieved. To create an effective and efficient air transportation system in this country, it is necessary to develop evenly distributed airports that cover all regions in Indonesia and one of them is in Lampung, namely Lampung Radin Inten II International Airport. Airports are gateways to the economy, business, education and other activities of regions, regions and countries, especially in Indonesia.

Radin Inten II Lampung International Airport is an airport located in South Lampung, Lampung. This airport has experienced rapid traffic growth after the Covid-19 pandemic. This increase in the number of aircraft movements must be supported by optimal operational services, one of which is by meeting ground time standards in order to achieve optimal use of parking stands. Ground time is the time an aircraft is on the apron from block on to block off, where as long as the aircraft is on the apron there are ramp service operational activities.

At on January 17, 2024, a new flight route has been opened, namely the Lampung-Denpasar route (TKG-DPS) and on January 21, 2024, the Lampung-Yogyakarta flight route (TKG-YIA) has also been opened, with the opening of the 2 new routes, it is hoped that it will be able to grow the tourism sector on both sides so that it can increase revenue for the relevant local governments. With the increasing movement of aircraft, it will require the airport to regulate the existence of *apron*. For this reason, it is necessary to know in advance how long an aircraft lasts while in the *apron*, how many aircraft movements occur in a day and what is the capacity *parking stand* which is able to accommodate the number of aircraft movements. In addition, airports need to pay attention to several things that must be fulfilled by airport managers to support flight safety and security. As stipulated in the regulations KP 326 of 2019 on Technical and Operational Standards of Civil Aviation Safety Regulations – part 139 (Manual of Standard CASR - Part 139) Volume I Airport (Aerodrome) (Perhubungan Udara, 2019).

The service provided by the airport manager on the air side is the provision of *parking stands* for aircraft. *parking stand* is a place located on the air side of an airport for aircraft parking, RON (Remain Overnight), or *aircraft grounded*. Before using *the parking stand* facility, a pilot must apply for the use of *a parking stand* to check the availability of *parking stands* that can be used at an airport before stopping the aircraft. The normal time given for the use of *parking stands* is 30-40 minutes for LCC (*Low Cost Carrier*) airlines, Airlines can apply if they want to increase the time of using *the parking stand* (*ground time*) by coordinating with the airport such as if there are weather problems, doing RON, *delays*, or making minor repairs to the aircraft.

Table 1. Apron Facilities

No	Airside *Facilities*	Dimension	Information
1.	*Apron*	565m x 110m	There are 12 *parking stands* that can accommodate B-737 Series, B-777, A-320 Series and ATR 72.
2.	*Parking Stand*	- (12 *parking stand)*	*Parking stand 1, 3-11* can accommodate B-739/A-320 aircraft types, *parking stand 2* can accommodate B-777/A-320 aircraft types, and *parking stand* 12 can only accommodate ATR 72 aircraft types. *Parking Stands* 1,2,9, and 11 have been rigidly constructed. *Parking Stands* 3 – 8 and 12 still use flexible construction.
3.	Garbarata	- (2 garbarata)	Garbarata is only in *parking stands* 1 and 2 which are directly connected to the terminal. Parking *stand* 1 can only be for Boeing, while *parking stand* 2 can be for Boeing and Airbus.
4.	*Helipad*	24m x 24m	It has 3 helipads with *rigid construction.* Condition: Good

At the Airport International Radin Inten II Lampung *parking stand* 1 and 2 are **priorities** as places to place aircraft. However, in reality there are still many shortcomings, such as its use still needs to be maximized, especially regarding ground time issues, technical problems, and others. To maximize the use of parking stands 1 and 2 to be more effective and efficient in supporting aircraft movement operations.

2. METHODS

2.1 Research Design

In this study, the researcher uses a quantitative descriptive research method. Quantitative descriptive research according to Kuntjojo in (Imansari & Kholifah, 2023) is a research that uses quantitative methods to describe phenomena as they are. Not intended to manipulate or control. This study will descriptive about the influence of aircraft movement operations on the optimization of use *parking stand* 1 and 2 at Radin Inten II International Airport Lampung.

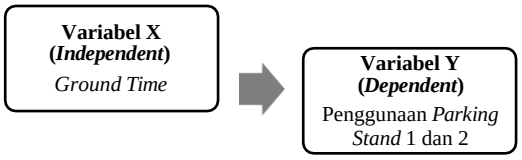
2.2 Population, Samples, and Research Objects

Population according to Arfatin in (Edyasanti, 2022) is the whole (universum) of the research object that is the center of attention and the source of research data. In this study, the authors used population data *daily flight* aircraft movements departing and arriving from Radin Inten II Lampung International Airport. Sample according to Supardi in (Latuheru & Hasanuddin, 2023) is part of the population that is used as the subject of the study as a representative of the members of the research population. In this study, the author uses a sample in the form of aircraft movements in February 2024. According to Sugiyono in (Suriani & Jailani, 2023) The object of research is a person's nature, object or activity that has a certain type that the researcher determines with the intention that it can be studied and then a conclusion is drawn. The object of research in this study is one of the *airside* facilities that is *parking stand*. In this study, the author focuses on optimizing the use of *parking stand* 1 and 2 Radin Inten II International Airport Lampung. In the implementation of the study, the researcher analyzed the use of *parking stand* 1 and 2 in February 2024 and calculations *Ground Time* and OTP deviation in *parking stand* 1 and 2 in February 2024.

2.3 Research Variables

Research variables according to Sugiyono in (Moto, 2019), is everything in any form that the researcher determines to be studied so that information about it is

obtained, then the conclusion is drawn. The independent variable is a variable that affects other variables. While the bound variable is a non-free variable, dependent and influenced by the independent variable.



The independent variable is a variable whose value affects other variables or is named (X), in this study is *Ground Time*. And for the bound variable is a variable that depends on another variable or named (Y), in this study it is the use of *Parking Stand* 1 and 2.

2.4 Data Collection Techniques

The following are some of the data collection techniques used by the authors in this study, as follows:

a. Observation

Observation, namely the author conducted a direct review of the field during the *On The Job Training* at Radin Inten II Lampung International Airport to see firsthand the events, locations, and necessary data. Through the data provided by Radin Inten II Lampung International Airport related to the problems raised. These data will later be needed as material for calculating the design or design of a plan.

b. Documentation

Documentation techniques are used by researchers as a way to complete and also increase the accuracy, correctness of data and information collected from documentation materials in the field and can be used as material to check the validity of data. With this method, the researcher uses the documentation method to be able to find out the existing conditions during the operational process of aircraft movement at Radin Inten II International Airport Lampung.

c. Literature Studies

Literature Studies, which is using literature sources and other data relevant to the problem being written as a theoretical basis in writing.

2.5 Data Analysis Methods

a. Use of *parking stands* 1 and 2 in February 2024

The data used is aircraft movement data, related airport operating hours, and the type of aircraft operating, at the time the aircraft movement data was taken, namely in February 2024. To calculate the average usage of *parking stands* 1 and 2, use the formula:

$$= \frac{\text{jumlah penggunaan } parking\ stand\ 1\ dan\ 2}{\text{total penggunaan } parking\ stand} x\ 100\% \qquad (3.1)$$

b. Ground time *and On* Time Performance *(OTP)* deviation calculation

This data was taken from the calculation of *ground time* and OTP deviation carried out on airlines using *parking stands* 1 and 2. This calculation was carried out to find out the average of each airline using *parking stands* 1 and 2 which affects the optimization of the use of *parking stands* 1 and 2 in supporting flight operations. The data used is in February 2024.

$$= \frac{\text{total } ground\ time}{\text{jumlah data } ground\ time} \qquad \text{.....(3.2)}$$

c. Linearity Test

The linearity test is used to select the regression model to be used. The linearity test is intended to determine whether there is a linear relationship between dependent variables to each independent variable to be tested. If a model does not meet the linearity requirements then a linear regression model cannot be used. To test the linearity of a model, a linearity test can be used by regression to the model to be tested. The linearity test is carried out by means of a correlation test, then the results of the correlation test can be seen from the results of the *scatter plot* graph where if the pattern shape is close to a straight line, it can be concluded that the relationship between the X and Y variables is linear.

d. Simple Linear Regression Test

To determine whether there is a relationship or influence between these variables, a simple linear regression analysis is used. Simple linear regression analysis is a linear relationship between the free variable (X) and the bound variable (Y). This analysis is used to predict the value of the bound variable (Y) if the value of the free variable (X) increases or decreases and to find out the relationship or influence between the independent variable and the bound variable, whether positive or negative.

The form of the equation of this simple linear regression is:

$$\mathbf{Y = a + b\ X} \qquad \text{.....(3.3)}$$

Information:
Y = Use of *Parking Stands* 1 and 2
X = *Ground Time*
a = Constant (if the value X = 0)
b = Simple regression coefficient

e. Determination Coefficient Test (R^2)

According to Haritanto in (Savira et al., 2022) This test is carried out to see the proportion of the total variation of the variable *dependent* that variables can explain *independent* used in the research. The value of R^2 is between zero and one. R value which has a value of 1 is a perfect fit, while the value of R^2 has a value of zero means that there is no relationship between the non-free variable and the descriptive variable (the independent variable).

f. Test t (partial)

Statistical t-test to test the influence between independent variables on partially bound variables by assuming that other variables are considered constant. Variable X and variable Y are used to test t with test criteria if t counts > t table at a (alpha) 0.05 or if the

significant value t < a (alpha) 0.05 (probability value t < 0.05) means there is a significant influence between variables X and Y. On the other hand, if the value of t is calculated < t table, or if the significant value of t > a (alpha) 0.05 (probability value t > 0.05) means there is an insignificant influence between variable X and Y.

3. RESULT AND DISCUSSION

3.1 Research Results

The researcher compiled this study using AMC *sheet* data which was tested and analyzed related to the average use of *parking stands* 1 and 2, ground *time* calculation and *On Time Perfomance* (OTP) deviation, and simple linear regression calculation, determination coefficient test, and t-test (partial) using IBM SPSS *Statistic*. The researcher also conducted some documentation related to this research at Radin Inten II Lampung International Airport, Lampung. For every airline operating at Radin Inten II Lampung International Airport, it has been regulated for the provision of slot time for each month, this is a reference for each airline to be able to regulate the ground time of each aircraft handled so that it does not exceed the time slot requirements because it will result in other things, which in this study is influential in optimizing the use of parking stands 1 and 2.

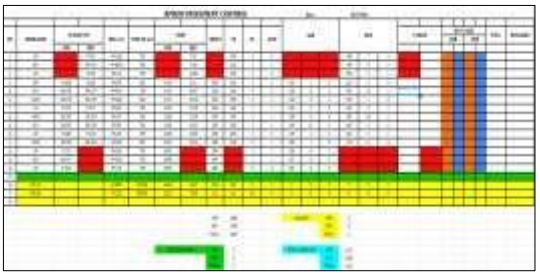


Figure 1. AMS Data

For each airline operating at Radin Inten II Lampung International Airport has been regulated for the slot time provisions of each airline, this is a reference for each airline to be able to regulate the ground time of each aircraft handled so that it does not exceed the provisions of the slot time because it will result in other things, which in this study is influential in optimizing the use of parking stands 1 and 2.

Figure 2. Daily Flight Schedule

3.1.1 Use of *Parking Stands* 1 and 2 in February 2024

At Radin Inten II Lampung Airport there are 2 *parking stands* that have garbarata facilities that are directly connected to the terminal building, these facilities certainly facilitate mobility for passengers and become a priority *parking stand* at Radin Inten II Lampung International Airport. At this stage, the researcher processed data from the *flight Apron Movement Sheet* at Radin Inten II Lampung Airport. The researcher analyzed the use of *parking stands* 1 and 2 in the period of February 2024 at Radin Inten II International Airport Lampung.

Table 2. Aircraft Movement Data

Date	Departure	Coming	Sum
1-Feb-24	10	10	20
2-Feb-24	9	9	18
3-Feb-24	10	9	19
4-Feb-24	10	10	20
5-Feb-24	10	10	20
6-Feb-24	9	9	18
7-Feb-24	11	11	22
8-Feb-24	11	11	22
9-Feb-24	9	8	17
10-Feb-24	8	8	16
11-Feb-24	11	11	22
12-Feb-24	10	10	20
13-Feb-24	7	6	13
14-Feb-24	7	7	14
15-Feb-24	7	8	15
16-Feb-24	7	6	13
17-Feb-24	6	6	12
18-Feb-24	8	9	17
19-Feb-24	9	9	18
20-Feb-24	7	6	13
21-Feb-24	9	9	18
22-Feb-24	8	8	16
23-Feb-24	8	9	17
24-Feb-24	9	10	19
25-Feb-24	9	9	18
26-Feb-24	9	8	17
27-Feb-24	9	10	19
28-Feb-24	10	10	20
29-Feb-24	9	8	17

In the aircraft movement data above, the researcher will process the data to obtain data on the use of *parking stands* 1 and 2. The data used is usage data from *departures*, *arrivals*, RON (*Remain Overnight*) aircraft operating during February 2024 at Radin Inten II Lampung International Airport.

Table 3. Usage data *Parking Stand*

Range Time	Total parking *stand usage*	Use of *parking Stand* 1	Use of *parking Stand* 2	Outdoor use *Parking Stand* 1 and 2
1-Feb-24	13	4	4	5
2-Feb-24	12	4	4	4
3-Feb-24	12	4	4	4
4-Feb-24	13	4	5	4
5-Feb-24	13	3	6	4
6-Feb-24	11	3	4	4
7-Feb-24	14	4	5	5
8-Feb-24	13	3	4	6
9-Feb-24	11	4	4	3
10-Feb-24	10	3	4	3
11-Feb-24	14	4	5	5
12-Feb-24	13	4	4	5
13-Feb-24	9	3	3	3
14-Feb-24	9	3	3	3
15-Feb-24	10	3	4	3
16-Feb-24	9	3	4	2
17-Feb-24	8	3	3	2
18-Feb-24	11	4	3	4

Range Time	Total parking *stand usage*	Use of *parking Stand* 1	Use of *parking Stand* 2	Outdoor use *Parking Stand* 1 and 2
19-Feb-24	12	3	4	5
20-Feb-24	9	3	3	3
21-Feb-24	11	3	5	3
22-Feb-24	10	3	3	4
23-Feb-24	11	3	5	3
24-Feb-24	12	4	4	4
25-Feb-24	11	3	4	4
26-Feb-24	11	3	5	3
27-Feb-24	12	3	4	5
28-Feb-24	13	4	4	5
29-Feb-24	11	3	4	4

In the analysis of the use of *parking* stands, it was obtained from the use of *departure – arrival* aircraft which were counted as 1 use and RON (*Remain Overnight*) aircraft operating at Radin Inten II Lampung International Airport. The calculation of the average use of *parking stands* 1 and 2 is assessed from the number of parking *stands* 1 and 2 used in February 2024 divided by the total use of *parking stands* in February 2024 and multiplied by 100%. Based on equation 3.1, the author obtained the following results:

$$= \frac{\text{jumlah penggunaan } parking\ stand\ 1\ dan\ 2}{\text{total penggunaan } parking\ stand}\ x\ 100\%$$

$$= \frac{216}{328} x\ 100\%$$

$$= 65{,}9\ \%$$

In the calculation above, it was found that the utilization rate of *parking stands* 1 and 2 in February 2024 at Radin Inten II International Airport Lampung was 65.9%.

3.1.2 Calculation *of ground time* and *On Time Performance* (OTP) deviation

On domestic flights, punctuality (*On Time Performance*) is a concern for passengers in using the flight services of an airline, especially for LCC (*Low Cost Carrier*) airlines, because they only offer punctuality services to passengers. *Ground time* is the focal point in pursuing *the On Time Performance* of a flight. At this stage, the researcher conducted a data processing from the flight *Apron Movement Sheet* document at Radin Inten II Lampung International Airport. The researcher analyzed the average *ground time* and deviation *on time performance* of each domestic airline operating in February 2024 at Radin Inten II Lampung International Airport.

Table 4. Ground time data and OTP deviation

Range Time	*Airline*	Average *ground time* (minutes)	Deviation OTP (minutes)
February 1	GA	79	9
	JT	40	15
	QZ	29	6
	IU	45	3
February 2	GA	79	10
	JT	35	16
	QZ	29	5
	IU	43	2
February 3	GA	75	10
	JT	37	16
	QZ	33	14
	IU	43	5
February 4	GA	74	5
	JT	36	12
	QZ	29	17
	IU	40	5
February 5	GA	70	1
	JT	30	2
	QZ	31	4
	IU	44	3
February 6	GA	78	10
	JT	38	28
	QZ	35	13
	IU	43	5
February 7	GA	56	14
	JT	43	13
	QZ	33	8
	IU	41	6
February 8	GA	81	12
	JT	40	31
	QZ	32	15
	IU	42	5
February 9	GA	70	9
	JT	34	12
	QZ	34	18
	IU	42	5
February 10	GA	80	14
	JT	38	14
	QZ	31	12
	IU	43	6
February 11	GA	77	10
	JT	39	33
	QZ	29	12
	IU	41	6
February 12	GA	80	9
	JT	37	19
	QZ	27	19
	IU	42	4
February 13	GA	83	8
	JT	36	13
	QZ	54	16
	IU	51	7
February 14	GA	90	15
	JT	43	24
	QZ	28	29
February 15	GA	85	10
	JT	39	20
	QZ	29	13
	IU	42	6
February 16	GA	81	6
	JT	39	22
	QZ	30	21
	IU	44	6
February 17	GA	79	4
	JT	39	19
	QZ	33	12
	IU	43	8
February 18	GA	81	6
	JT	38	23
	QZ	35	28
	IU	42	3
February 19	GA	82	12
	JT	37	20
	QZ	34	14
	IU	47	6
February 20	GA	80	5
	JT	35	14
	QZ	35	24
	IU	41	5
February 21	GA	79	4
	JT	37	30
	QZ	33	32
	IU	41	2
February 22	GA	78	3
	JT	40	28
	QZ	33	24
	IU	42	5
February 23	GA	78	3
	JT	36	24
	QZ	33	19
	IU	43	6
February 24	GA	82	7
	JT	41	38
	QZ	30	25
	IU	43	6
February 25	GA	82	13
	JT	42	27
	QZ	35	37
	IU	44	8
February 26	GA	79	10
	JT	38	31

Range Time	*Airline*	Average *ground time* (minutes)	Deviation OTP (minutes)
	QZ	33	14
	IU	44	6
February 27	GA	80	11
	JT	42	41
	QZ	34	17
	IU	45	7
February 28	GA	82	14
	JT	37	26
	QZ	35	26
	IU	40	4
February 29	GA	82	12
	JT	37	30
	QZ	41	16
	IU	41	3

The *calculation of ground time* is assessed from the *block off* time or ATD (*Actual Time Departure*) minus the *block on* time or ATA (*Actual Time Arrival*) so as to find the old result of *the ground time*. From the calculation of *ground time* per day for each airline. Based on equation 3.2, the author groups it into an average per week, which are as follows:

a) Week 1: February 1, 2024 to February 7, 2024
- GA (Garuda Indonesia)
  $= \frac{79+79+75+74+70+78+56}{7}$
  = 73 minutes
- JT (Lion Air)
  $= \frac{40+35+37+36+30+38+43}{7}$
  = 37 minutes
- QZ (Air Asia)
  $= \frac{29+29+33+29+31+35+33}{7}$
  = 32 minutes
- IU (Super Air Jet)
  $= \frac{45+43+43+40+44+43+41}{7}$
  = 43 minutes

b) Week 2: February 8, 2024 to February 14, 2024
- GA (Garuda Indonesia)
  $= \frac{81+70+80+77+80+83+90}{7}$
  = 80 minutes
- JT (Lion Air)
  $= \frac{40+34+38+39+37+36+43}{7}$
  = 39 minutes
- QZ (Air Asia)
  $= \frac{32+34+31+29+27+54+28}{7}$
  = 34 minutes
- IU (Super Air Jet)
  $= \frac{42+42+43+41+42+51}{6}$
  = 44 minutes

c) Week 3: February 15, 2024 to February 21, 2024
- GA (Garuda Indonesia)
  $= \frac{85+81+79+81+82+80+79}{7}$
  = 81 minutes
- JT (Lion Air)
  $= \frac{39+39+39+38+37+35+37}{7}$
  = 38 minutes
- QZ (Air Asia)
  $= \frac{29+30+33+35+34+35+33}{7}$
  = 33 minutes
- IU (Super Air Jet)
  $= \frac{42+44+43+42+47+41+41}{7}$
  = 43 minutes

d) Week 4: February 22, 2024 to February 29, 2024
- GA (Garuda Indonesia)
  $= \frac{78+78+82+82+79+80+82+82}{8}$
  = 81 minutes
- JT (Lion Air)
  $= \frac{40+36+41+42+38+42+37+37}{8}$
  = 40 minutes
- QZ (Air Asia)
  $= \frac{33+33+30+35+33+34+35+41}{8}$
  = 35 minutes
- IU (Super Air Jet)
  $= \frac{42+43+43+44+44+45+40+41}{8}$
  = 43 minutes

For the calculation of OTP (*On Time Performance*) Deviation, the author performs from *the block off* or ATD (*Actual Time Departure*) value minus the Scheduled *Time Departure* (STD) value. The calculation is assessed per day, then the author groups it into an average per week of airline OTP deviation as follows:

a) Week 1: February 1, 2024 to February 7, 2024
- GA (Garuda Indonesia)
  $= \frac{9+10+10+5+1+10+14}{7}$
  = 9 minutes
- JT (Lion Air)
  $= \frac{15+16+16+12+2+28+13}{7}$
  = 15 minutes
- QZ (Air Asia)
  $= \frac{6+5+14+17+4+13+8}{7}$
  = 10 minutes
- IU (Super Air Jet)
  $= \frac{3+2+5+5+3+5+6}{7}$
  = 5 minutes

b) Week 2: February 8, 2024 to February 14, 2024
- GA (Garuda Indonesia)
  $= \frac{12+9+14+10+9+8+15}{7}$
  = 11 minutes
- JT (Lion Air)
  $= \frac{31+12+14+33+19+13+24}{7}$
  = 21 minutes
- QZ (Air Asia)
  $= \frac{15+18+12+12+19+16+29}{7}$
  = 18 minutes
- IU (Super Air Jet)
  $= \frac{5+5+6+6+4+7}{6}$
  = 5 minutes

c) Week 3: February 15, 2024 to February 21, 2024
- GA (Garuda Indonesia)
  $= \frac{10+6+4+6+12+5+4}{7}$
  = 7 minutes
- JT (Lion Air)

$= \frac{20+22+19+23+20+14+30}{7}$

= 22 minutes

- QZ (Air Asia)

$= \frac{13+21+12+28+14+24+32}{7}$

= 21 minutes

- IU (Super Air Jet)

$= \frac{6+6+8+3+6+5+2}{7}$

= 6 minutes

d) Week 4: February 22, 2024 to February 29, 2024

- GA (Garuda Indonesia)

$= \frac{3+3+7+13+10+11+14+12}{8}$

= 10 minutes

- JT (Lion Air)

$= \frac{28+24+38+27+31+41+26+30}{8}$

= 31 minutes

- QZ (Air Asia)

$= \frac{24+19+25+37+14+17+26+16}{8}$

= 23 minutes

- IU (Super Air Jet)

$= \frac{5+6+6+8+6+7+4+3}{8}$

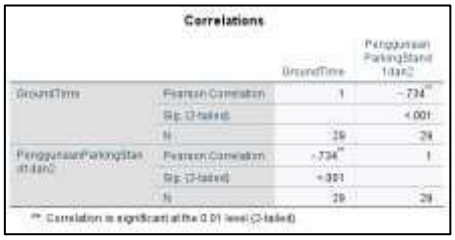
= 6 minutes

3.2 Discussion

From the calculation of *ground time* and *On Time Perfomance* (OTP) deviation, then the data obtained will be entered into a table for linearity test, simple linear regression test, partial test (t), and determination coefficient using IBM SPSS *Statistic*. Based on the data that has been obtained from the calculation above, a simple linear regression test, then used to determine the influence *of ground time* on the use of *parking stands* 1 and 2.

3.2.1 Linearity Test

The linearity test is used to select the regression model to be used. The linearity test is intended to determine whether there is a linear relationship between dependent variables to each independent variable to be tested. If a model does not meet the linearity requirements then a linear regression model cannot be used. To test the linearity of a model, a linearity test can be used by regression to the model to be tested.



Correlations

		GroundTime	PenggunaanParkingStand1dan2
GroundTime	Pearson Correlation	1	-,734**
	Sig. (2-tailed)		<,001
	N	29	29
PenggunaanParkingStand1dan2	Pearson Correlation	-,734**	1
	Sig. (2-tailed)	<,001	
	N	29	29

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 3. Correlation Test Results

Based on the results of the correlation test, a significance value of < 0.001 or < 0.05 was obtained, which showed that *the independent* variable (*ground time*) and the *dependent* variable (use *of parking stands* 1 and 2) were correlated or related, from the table it can also be seen that the correlation coefficient or *Pearson correlation* is 0.734 and is included in the strong correlation.

Table 5. Guidelines *Pearson Correlation*

Interval Koefisien	Keeratan Korelasi
0,00-0,20	Sangat Lemah
0,21-0,40	Lemah
0,41-0,70	Moderate / Sedang
0,71-0,90	Kuat
0,91-0,99	Sangat Kuat
1	Korelasi Sempurna

After the relationship and correlation between the *ground time variable* and the use of *parking stands* 1 and 2 is known, the next step is to see if the two variables have a linear relationship by looking at the *scatter plot graph.*

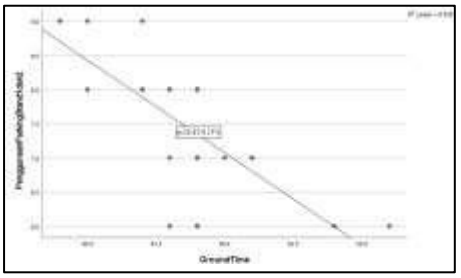


Figure 4. Graphs *Scatter Plot*

Based on the results of the linearity test showing that there is a linear relationship, this is shown by the scattered dots on the *scatter plot* tend to form a pattern close to a straight line, it can be concluded that the relationship between variables X and Y is linear. With these results, the right processing method for the data is simple linear regression.

After the linearity test shows a linear relationship, the next step is to process data using a simple linear regression method. The result of the regression analysis is the coefficient for the independent variable.

3.2.2 Simple Linear Regression Test

Simple regression analysis is used to project or evaluate the influence of one independent variable or independent variable on a bound variable or dependent variable. Simple linear regression analysis explains the relationship between one independent variable and one response variable, where the relationship between the free variable and the response variable is considered linear.

Table 6. Simple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	20,619	2,348		8,781	<,001
	GroundTime	-,271	,048	-,734	-5,617	<,001

a. Dependent Variable: PenggunaanParkingStand1dan2

From the results of the regression test, based on equation 3.3, the results of the regression equation are obtained as follows:

$$\boldsymbol{Y = 20,619 - 0,271X}$$

Y = Dependent Variable (use of *Parking Stand* 1 and 2)

X = Independent Variable (*ground time*)

From the coefficient of the simple linear regression equation above, it is known that the constant is 20.619, indicating that if *the ground time* variable has a value of zero or fixed, it will increase the use of *parking stands* 1 and 2 by 20.619%. The variable 20.619 shows that if the *ground time variable* increases by 1 unit, it will decrease the utilization rate of *parking stands* 1 and 2 by 0.271 units or 27.1%.

3.2.3 Determination Coefficient Test (R^2)

The Coefficient of Determination (R^2) is used to determine how much the free variable can explain the bound variable. The value of the determination coefficient is in the range of zero (0) and one (1). If the value of the determination coefficient is close to zero (0), it means that the model's ability to explain the bound variable is very limited. On the other hand, if the value of the variable determination coefficient is close to one (1), it means that the ability of the free variable to cause the existence of the bound variable is getting stronger.

Table 7. Determination Coefficient Test Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.734[a]	.539	.522	.655

a. Predictors: (Constant), GroundTime

From the results of the SPSS *calculation of the summary model*, the R^2 value is 0.539. This shows that the ability of independent variables to explain the variance of dependent variables is 53.9%. There are still 46.1% variance variables that cannot be explained by independent variables in this research model. This is due to other influencing factors that were not studied in this study.

3.2.4 Test t (Partial)

According to Ghozali in (Ghozali, 2016), The purpose of the t-test (partial) is to see how far one variable affects *independent* individually in explaining the variation of variables *dependent*. This can be seen from the significant value of t generated from the calculation. If the significant value t < a significant level (0.05), then the variable *independent* individually affects the dependent variable, on the other hand, if the significant value t > a significant level (0.05), then the variable *independent* individually it has no effect on the dependent variables.

Table 8. Test Results t (Partial)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	20.619	2.348		8.781	< .001
	GroundTime	-.271	.048	-.734	-5.617	< .001

a. Dependent Variable: PenggunaanParkingStand1dan2

Based on the results of the t-test (partial), a significant value of < 0.001 was obtained. This shows that variable X has a significant value < 0.05 and t count is 5.671 which is greater than the t table (2.052) which means that variable X has a significant effect on Y. Based on the table, it has been proven that the *ground time* variable (X) has a significant influence on the variable of parking *stand* use 1 and 2 (Y).

For hypothesis testing, based on the results of the significance value obtained from the table above, a significance value of < 0.001 was obtained. This shows that the significance value of 0.001 < 0.05, then it can be concluded that H_0 was rejected and H_1 which reads "There is an influence of *ground time* on the optimization of the use of *parking stands* 1 and 2 in supporting the operation of aircraft movements at Radin Inten II International Airport Lampung", was accepted.

3.2.5 Factors affecting *ground time*

Based on the results of observations that have been made at the airport selected by the researcher for data collection, the researcher found various factors that affect *ground time*, which are as follows:

a. *Loading and Unloading*

The *loading* process is the process of loading and raising goods into the aircraft *compartment* before the aircraft *boards*. *Loading* consists of baggage and cargo, for *baggage loading*, namely passenger's belongings that are handed over during the process at the *check-in counter* or when there is a *baggage sweeping* process in the *departure gate* area, and for *cargo loading*, which can be in the form of goods, letters, or documents submitted to the *ground handling*. In the *loading* process, this can be a factor that affects *ground time* due to the length of the baggage sorting process, and the search *for baggage standby* for passengers who are not *boarding*.

The *unloading* process is the process of removing and unloading goods from the *compartment*, for luggage then handed over to the *ground handling* to be subsequently handed over to passengers and for cargo is also handed over to *the ground handling* which will then be sent to the destination address. This process is carried out when the plane has *blocked off* and stopped at the *parking stand* area. This *unloading* process can be a factor that affects *ground time* due to the length of waiting for readiness from BTT (*Baggage Towing Tractor*) and CBL (*Conveyor Belt Loader*), and the length of transportation and sorting.

b. *Ramp Maintenance*

Ramp maintenance is the process of repairing and maintaining an aircraft that is carried out when the aircraft is on the *apron* because there are several technical problems that must be fixed immediately. This process can affect *ground time* because of the length of *the maintenance* process from the technician which usually takes a minimum of 30 minutes and a maximum can even delay the flight. Examples of *ramp maintenance*, light maintenance, replacement *of landing gear* and other components.

c. *Weather*

Weather or weather is a factor that affects *ground time* because as an airline operator must be able to determine whether a *flight* is suitable for *boarding* or must wait until the weather improves so that the aircraft is suitable for *boarding* in these conditions.

d. *Ground Handling*

Ground handling is an activity carried out by *ground handling* service providers to handle operations such as, *loading unloading* baggage, *loading unloading* cargo, *refuelling*, *catering*, *aircraft maintenance*, passenger services, GSE (*Ground Support Equipment*) management), as well as security checks. This activity can affect *ground time* due to the length of *the loading* and *unloading process*, the length of *aircraft maintenance*, the presence of prisoners who take a long time to prepare their documents, and the lack of porters.

e. *Apron Collapse* and FOD (*Foreign Object Debris*)

Apron collapse or sunken *apron* is a condition where the *apron* area, which is where aircraft are parked and transported goods and passengers, collapses or decreases. These incidents can be caused by a variety of factors, including inadequate design, lack of maintenance, or an increased aircraft traffic load that is not balanced with the capacity of the *apron*. This incident can affect *ground time* because it can interfere with aircraft operations, aircraft rotation, and safety at the airport.

FOD (*Foreign Object Debris*) is a foreign object that flies or falls into the airport *apron* area, such as oil/gasoline, glass, metal, or other objects that should not be in the area. FOD can cause damage to aircraft, machinery, or other equipment, as well as disrupt flight operations. FOD can affect *ground time* because it can cause *delays* that interfere with aircraft movement operations.

f. *De-boarding* and *Boarding*

De-boarding is the process of dropping passengers off the aircraft. This process involves passengers exiting the aircraft after the flight is complete, and followed by the collection and unloading of baggage from *the compartment*. This process can affect *ground time* due to the length of the disembarkation process which can be time-consuming if passengers do not disembark immediately or if there are passengers who require special assistance, such as passengers with physical limitations, and the difference in aircraft type, such as larger aircraft or having more passengers, can slow *down the de-boarding* process. Larger aircraft take longer to prepare and disembark passengers.

Boarding is the process by which passengers enter the plane before the flight begins. This process occurs after passengers complete steps such as check-in and security checks at the airport. This process can affect *ground time* because of the length of handling *of passengers over cabin baggage*, if there are passengers who need special assistance, such as passengers with physical limitations, as well as different types of aircraft, such as larger aircraft or having more passengers, can slow down the *boarding* process. Larger aircraft take longer to prepare and disembark passengers.

3.2.6 Optimization of the use of *parking stands* 1 and 2

Based on the observations and documentation that have been carried out in the previous subchapter, the researcher obtained the following results:
Optimizations that can be made in operational activities for *ground time* in order to create optimization of the use of *parking stands* 1 and 2 are as follows:

a. Improved *De-boarding* and *Boarding processes*

Optimizing the *de-boarding* and *boarding* process to reduce *ground time* spent by aircraft while at *the parking stand* by ensuring that *the pax boarding* process runs smoothly and on time. This can be done in the following ways:

   a. Check the readiness of the crew of the advanced aircraft or *new crew*,
   b. Check the completeness of personnel at the *gate*, and
   c. Applying the Rotunda method. The Rotunda method is a *boarding* method used by Citilink airline which is an LCC (*Low Cost Carrier*) airline, where LCC airlines only have *a very short ground time, this is because it does not provide* catering *so that it can cut* ground time *and increase utilization* airplane. The Rotunda method is a method by holding passengers in the garbarata aisle while waiting for the cabin crew for *boarding preparation*, so that when the *cabin crew* is ready, passengers who are waiting in the garbarata aisle can go directly to their respective seats. Where usually what other airlines do is to board passengers when the *cabin crew* is ready.

b. Optimization of loading and *unloading processes*

Optimizing the *loading* and *unloading* process is one of the important things to save *ground time*. The *loading* and *unloading* process of course also depends on the performance of personnel and the readiness of the ground handling *equipment*. The *loading* and *unloading* process can be done in the following ways:

a. Checking the completeness of personnel, including *ramp dispatcher* officers, *aviation security officers*, *loading masters*, porters,
b. Checking the readiness of GSE (*Ground Support Equipment*) in accordance with KP 635 of 2015 concerning Standards for Ground *Support Equipment* (GSE) and Operational Vehicles Operating on the Air Side, including *refueling trucks*, BTT (*Baggage Towing Tractor*), ATT (*Aircraft Towing Tractor*), *baggage* carts, and CBL (*Conveyor Belt Loader*).

c. Minimize and overcome technical issues Minimizing and overcoming technical problems in airport *landside* and *airside* facilities is important in improving the efficiency of aircraft *ground time*. The technical problem in this study is the *apron collapse* (sunken *apron*) which occurred on February 22, 2024 and there was FOD (*Foreign Object Debris*) in the period of February 2024. Incidents like this can be caused by factors such as inadequate design, lack of maintenance, or an increased aircraft traffic load that is not in accordance with the capacity of the *apron*. This event can cause *delays* to the shutdown of operations to land or take off from the affected area. Things that can be done to minimize the technical problems of *apron collapse* are as follows:
   a. Perform regular maintenance and inspections of facilities on the *apron* to ensure that the structure remains secure and can accommodate the load of parked aircraft. This includes regular testing and repairs on *aprons* and other facilities,

b. Conduct regular FOD inspections and maintenance to identify and remove those FODs before they cause problems.
c. Make immediate repairs for *apron collapse* such as strengthening the *apron* structure, repairing the surface, or adjusting drainage to prevent similar incidents in the future.
d. Immediately report the incident to the airport authorities and engineering units to immediately carry out FOD cleaning. Evacuate all personnel and vehicles from the area to ensure safety.

4. CONCLUSION

4.1 Conclusion

Based on the results of the analysis and discussion obtained by the researcher in the previous chapter, conclusions can be drawn as follows:

a. In the calculation of the use *of parking stands* at Radin Inten II Lampung International Airport, it was found that the average use of *parking stands* 1 and 2 in February 2024 was 65.9%.
b. There is an effect *of ground time* on the use of *parking stands* 1 and 2 on airlines operating at Radin Inten II Lampung International Airport. From the results of the regression analysis, it is stated that the regression constant is obtained at 20.619 which shows that the *ground time* variable (X) has a value of zero or fixed, it will increase the utilization rate *of parking stands* 1 and 2 by 20.619% and if this variable increases by 1 unit, it will decrease the utilization rate of *parking stands* 1 and 2 by 0.271 units or 27.1%. From the results of the determination coefficient or R2 (R square) of 0.539 which shows that *the independent* variable (*ground time*) has an effect of 53.9% on the *dependent* variable (use of *parking stands* 1 and 2), while the remaining 46.1% is explained by other variables that cannot be explained in this study. The results of the t-test (partial) show that the X variable has a significant value < 0.05 and the t-calculated is 5.671 which is greater than the t table (2.052) which means that the *ground time* variable (X) has a significant influence on the variable of parking *stand* use 1 and 2 (Y). Based on the overall results of the above test, it can be concluded that H1 is accepted and H0 is rejected.
c. Optimizing the use of *parking stands* 1 and 2 includes improving the *de-boarding* and *boarding process* by checking the readiness of *crew* and *gate* personnel and being able to apply the Rotunda method so that it can run smoothly and on time. Optimization of the *loading* and *unloading* process by checking the completeness of *ground handling personnel* and the readiness of GSE (*Ground Support Equipment*) in accordance with KP 635 of 2015. And minimize and overcome the technical problems that occur, in this study, namely *apron collapse* and FOD by performing maintenance on the facilities on the *apron* and FOD inspections regularly. Make repairs immediately if there is *an apron collapse* and immediately clean up if there is a FOD in the *airside area.*

4.2 Advice

Based on the results of the research conducted by the researcher at Radin Inten II International Airport Lampung and the conclusions that have been described, the author can provide the following suggestions:

a. Judging from the influence of *ground time* on the use of *parking stands* 1 and 2 at Radin Inten II Lampung International Airport, there is a suggestion that it is hoped that the airport can optimize facilities on the *airside* and *landside*, improve the performance of third-party service performance so that it can meet the appropriate *ground time* target in order to achieve optimal use *Parking stand* 1 and 2.
b. For several factors that affect *ground time*, namely *the unloading* and *loading process*, *ramp maintenance*, *ground handling*, *apron collapse* and FOD, as well as *the de-boarding* and *boarding* process There are suggestions to ensure and optimize the performance of professional, competent, and responsible third-party services so that the optimization of the use of *parking stands* 1 and 2 can be achieved.
c. Optimizing *ground handling* operations in fulfilling *ground time* There is a suggestion, namely the need

for monitoring and reprimands for the operational activities of *ground handling personnel* in order to achieve optimization of the use of *parking stands* 1 and 2.

REFERENCES

[1] Director General of Civil Aviation. (2015). Ministry of Transportation Director General of Civil Aviation. *KP no. 21 of 2015 concerning OPERATIONAL TECHNICAL GUIDELINES OF CIVIL AVIATION SAFETY REGULATIONS PART 139 – 11 (ADVISORY CIRCULAR CASR PART 139-11), AIRPORT PERSONNEL LICENSE*.

[2] Director General of Civil Aviation, K. P. (2005). Regulation of the Director General of Civil Aviation Number SKEP/77/VI/2005 concerning Technical Requirements for the Operation of Airport Engineering Facilities. *Ministry of Transportation*, 1–140.

[3] Dr. Hermawan, Sigit SE., M. S., & Amirullah, SE., M. . (2021). Business Research Methods. In *Media Nusa Creative (MNC Publishing)* (Vol. 2156051003, Number 1).

[4] Edyasanti, S. F. (2022). ANALYSIS OF PUBLIC INTEREST IN BECOMING A CUSTOMER AT THE SHARIA PAWNSHOP SIMPANG RUMBAI UNIT ACCORDING TO THE PERSPECTIVE OF ISLAMIC ECONOMICS - Sultan Syarif Kasim State Islamic University Riau Repository. In *Pekanbaru: Thesis*. http://repository.uin-suska.ac.id/58862/

[5] Farhan, D. N. (2016). *ANALYSIS OF THE EFFECT OF REDUCED POWER ON HYDRAULIC WINDLASS ON SHIP OPERATIONS ON MT. ANDHIKA VIDYANATA*. *4*(1), 1–23.

[6] Fatihah, D. C., & Farida, M. (2022). The Effect of Compensation on Employee Performance at the Fisheries and Livestock Service of West Bandung Regency. *Secad*, *2*(2), 2.

[7] Ghozali, I. (2016). The Effect of Profit Management on Corporate Social Responsibility Disclosure. *Diponegoro Journal of Accounting*, *Vol. 8*(No. 1), 1–12.

[8] Handoko, F. D. (2022). *TRANSFORMING DATA INTO INFORMATION IN THE BUSINESS OF INTELLIGENCE*. *2*(3), 313–319.

[9] Horonjeff, R. (1993). Planning and Design of Airports. *The McGraw Hill Companies*.

[10] Imansari, N., & Kholifah, U. (2023). *RESEARCH METHODOLOGY FOR VOCATIONAL EDUCATION* (Number 85).

[11] Ministry of Transportation of the Republic of Indonesia. (2009). *Law Number 1 of 2009 concerning Aviation* (Vol. 2, Number 5).

[12] Kurniati, T., & Nurhayati, N. (2020). Analysis of non-performing loans is seen from the standard of Non-Performing Loans (NPL) at Pt. Bank Mandiri (Persero) Tbk. *Scientific Journal of Accounting and Finance*, *9*(1), 17. https://doi.org/10.32832/inovator.v9i1.3001

[13] Latuheru, R. V., & Hasanuddin, M. I. (2023). Analysis of dribbling ability in the game of football. *Journal on Education*, *06*(01), 1145–1151.

[14] Mashuri, S. (2015). *Airport Planning*.

[15] Moto, M. M. (2019). The Influence of the Use of Learning Media in the World of Education. *Indonesian Journal of Primary Education*, *3*(1), 20–28. https://doi.org/10.17509/ijpe.v3i1.16060

[16] Ningsih, E. (2021). The Relationship between Loneliness and the Intensity of Social Media Use in Students. *Journal of Psychology*, 1–42. https://repository.uir.ac.id/8790/1/178110231.pdf

[17] Pattiiha. (2005). *Space Needs Analysis*. 57–79.

[18] Pawestri, N. A. (2019). EVALUATION OF THE APPLICATION OF THE CONCEPT OF HEALTHY HOUSES RELATED TO SPATIAL PLANNING, LIGHTING AND NATURAL VENTILATION IN MEDIUM RESIDENTIAL HOUSES IN DENSE URBAN AREAS. *ISLAMIC UNIVERSITY OF INDONESIA YOGYAKARTA*, 29–39.

[19] Civil Aviation, D. J. (2015). KP 635 of 2015 concerning Service Standards for Ground Support Equipment (GSE) and Operational Vehicles operating on the Air Side. *Ministry of Transportation*.

[20] Civil Aviation, D. J. (2019). Regulation of the Director General of Civil Aviation Number 326 of 2019 concerning Technical and Operational Standards of Civil Aviation Safety Regulations - Part 139 (Manual of Standard CASR - Part 139) Volume I of Airports (Aerodrome). *Ministry of Transportation*, *I*. https://jdih.dephub.go.id/assets/uudocs/pEI/2019/KP_326_TAHUN_2019_MOS_139_VOL_I_AERODROME.pdf

[21] Pratama, M. D. (2021). *Analysis of the Impact of the Covid-19 Pandemic on Software Process Startups in Indonesia*. https://dspace.uii.ac.id/handle/123456789/37937%0Ahttps://dspace.uii.ac.id/bitstream/handle/123456789/37937/17523195.pdf?sequence=1&isAllowed=y

[22] LANGUAGE CENTER, & NATIONAL, D. P. (2016). *The Great Dictionary of Indonesian Language* (Vol. 5, Number 1). https://revistas.ufrj.br/index.php/rce/article/download/1659/1508%0Ahttp://hipatiapress.com/hpjournals/index.php/qre/article/view/1348%5Cnhttp://www.tandfonline.com/doi/abs/10.1080/09500799708666915%5Cnhttps://mckinseyonsociety.com/downloads/reports/Educa

[23] Putri, L. R. (2020). The Influence of Tourism on the Increase of Surakarta City Tourism. *The Influence of Tourism on the Increase of Surakarta City Pdrb*, *21*(1), 1–7.

[24] Rohani, Z. T. (2023). *Optimization of facility*

management in improving the quality of learning at Bangkinang Integrated Islamic Private Junior High School.

[25] Santika, B. (2023). *DESIGN OF INFORMATION SYSTEMS TO SUPPORT NATURAL DISASTER EMERGENCY RESPONSE SIMULATIONS FOR NEW STUDENTS IN HIGHER EDUCATION*.

[26] Saputra, D. A. (2017). *PLANNING OF EXTENSIONS AND PAVEMENTS*. pp. 32–34.

[27] Sarie, H. A. (2020). A STUDY OF THE DISTRIBUTION PATTERN OF COMMUNITY MOVEMENTS ON BENGKALIS ISLAND. *Riau Islamic University Library*, 70.

[28] Savira, F., Wahyunadi, & Fatimah, S. (2022). The Effect of PAD, Capital Expenditure and Tpak on Gross Regional Domestic Product in Regencies/Cities of NTB Province in 2015-2020. *Economic Opportunity Development*, *1*(1), 77–99. https://doi.org/10.29303/oportunitas.v1i1.132

[29] Setiani, T., & Natasya, C. (2020). Analysis of the Level of Banking Financial Performance with the RGEC (Risk Profile, Good Corporate Governance, Earning, Capital) Method at PT. Mandiri (Persero) Tbk for the period 2014-2018. *Journal of Accounting*, *13*(1), 1–14.

[30] Soleh, H. (2021). *OPERATIONAL PROCESS, ARRIVAL AND DEPARTURE PROCEDURES FOR SHIPS BELONGING TO PT. ATOSIM LAMPUNG SHIPPING AT TANJUNG EMAS PORT SEMARANG*. 6.

[31] Sri Asfiati, Z. (2018). TRAFFIC MOVEMENT IN MEDAN PERJUANGAN DISTRICT, MEDAN CITY. *SEMINASTEK UISU 2021*, 207.

[32] Suriani, N., & Jailani, M. S. (2023). The Concept of Population and Sampling and Selection of Participants was reviewed. *Journal of Islamic Education*, *1*(2), 24–36.

[33] Suryani, W. (2018). The Effect of Service on Inpatient Satisfaction at Pirngadi General Hospital Medan. *Journal of Economic and Business Implementation*, 819–838.

[34] Wahyuni, Y. (2000). *PUBLIC FACILITIES AND SERVICE QUALITY IN INCREASING PASSENGER SATISFACTION AT YOGYAKARTA INTERNATIONAL AIRPORT*. *16*.

[35] Yoyok Cahyono, Popong Suryani, N. E. (2020). *Journal of Industrial Engineering & Management Research (JIEMAR). 01*(June), 1–23.